

REMARKS

Claims 1-13 and 18 (of which 1 and 18 are independent claims) stand rejected as anticipated by Kuhn (U.S. Pat. 6,029,132). Dependent claims 14-17 stand rejected as unpatentable over Kuhn in view of Mohri (U.S. Pat. 6,029,132)

Kuhn

Independent claim 1 stands rejected as anticipated by Kuhn (U.S. Pat. 6,029,132). Claim 1 is directed to “[a] method for selecting segments ... for synthesizing a target utterance.” The claim requires “searching a graph in which each path through the graph identifies a sequence of segments of the source utterances.” The Applicant disagrees with the position taken in the Office Action on a number of different grounds.

1.

The office action cites Kuhn as disclosing “a method for selecting segments from a corpus of source utterances” as recited in the preamble of claim 1. However, there is no discussion in Kuhn of any such selection. Kuhn may disclose a process for generating pronunciations in which the pronunciations generated by the system can be used in speech synthesis, but use for the task of segment selection from a corpus of speech utterances is not disclosed.

Referring to Kuhn's Fig. 1, the output pronunciation (26) does not correspond to a “segments from a corpus of speech utterances.” As stated in the Abstract, “the pronunciations generated by the system can be used in speech synthesis and speech recognition applications as well as lexicography applications.” Kuhn's specification does not however go any deeper into such possible applications.

2.

The Office Action asserts that Kuhn discloses the recited “searching a graph...” step. However, the Action does not identify where Kuhn discloses a graph of the type that is searched. Specifically, the claim requires that the graph be such that “each path through the graph identifies a sequence of segments of the source utterances.” Kuhn discloses no such graph.

If the Action is referring to one of the decision trees disclosed in Kuhn as corresponding to the recited “graph,” such a decision tree fails to satisfy the limitation identified above related to each path through the tree/graph. For example, referring to Fig. 2, a path from the root of the tree (38) to a leaf of the tree (e.g., 44) corresponds to a particular phoneme labels or probability distribution of phoneme labels. Such a path does not correspond to a “sequence of segments” as required by claim 1.

3.

The Action asserts that Kuhn discloses “searching the graph includ[ing] ... selecting segments for synthesizing the target utterance ...” citing column 5, lines 32-60. As introduced above, Kuhn discloses no selection of segments for synthesizing the target utterance. The product of Kuhn’s procedure is a pronunciation, not segments from a corpus of source utterances.

Independent claim 18, which is directed to software, is allowable for at least the reasons set forth for claim 1. Claims that depend on claim 1 or on claim 18 are allowable for at least the reasons set forth above for claim 1

Kuhn in view of Mohri

1.

Mohri does not provide what is missing to yield the features of the independent claims. For instance, Mohri does not in fact disclose a graph be such that “each path through the graph identifies a sequence of segments of the corpus of source utterances.” as required by claim 1. Mohri discloses a system for converting speech signals into word sequences (i.e., a speech recognizer). His system processes an audio signal, such as of a single utterance by a speaker, and then processes sequences of labels of acoustic units (e.g., phonemes). The processing of these labels of acoustic units involves the graphs the office action refers to.

2.

With regard to claim 14 that is specifically cited as being unpatentable over Kuhn in view of Mohri, neither of the cited references discloses “forming a first part of the graph that encodes a sequence of segments and a corresponding sequence of unit labels for each of the sources utterances,” nor do the disclose “forming a second part that encodes allowable transitions between segments of different utterances.”

3.

The applicant also notes that Mohri discloses an approach to speech recognition, and not an approach to synthesizing an utterance. Therefore, although both Kuhn and Mohri may relate to the field of speech processing, they are not analogous art and there was no motivation to apply the approaches described in Mohri to the segment selecting problem in speech synthesis at the time the present application was filed. The Applicant disagrees that there is any advantage to using the teaching of Mohri in Kuhn “to interpret the input sequence more correctly” as the Action asserts. Indeed, it is not clear to the Applicant how the Action proposes to modify Kuhn to introduce the teaching of Mohri, and how such a modification would yield the claimed invention. For example, neither Kuhn nor Mohri disclose “a corpus of source utterances for

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synthesizing a target utterance" or "searching a graph ..." where the graph satisfies the limitations recited in the claim 1.

Enclosed is a \$55.00 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: Sept. 20, 2001

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